इंटरनेट मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”
Mazdoor Kisan Shakti Sangathan
“The Right to Information, The Right to Live”

“पुराने को छोड नये के तरफ”
Jawaharlal Nehru
“Step Out From the Old to the New”

IS 14779 (2000): General Purpose Oil Based Temporary Corrosion Preventives [PCD 3: Petroleum, Lubricants and their Related Products]

“ज्ञान से एक नये भारत का निर्माण”
Satyanarayan Gangaram Pitroda
“Invent a New India Using Knowledge”

Act Number 22 of 2005
The Indian Parliament
RIGHT TO INFORMATION

Made Available By
Public.Resource.Org

“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”
Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE

BRUTUM FULMEN

IGNORANTIA JURIS NON EXCUSAT

PROTECTED BY COPYRIGHT

भारतीय मानक

सामान्य प्रयोजी तेल आधारित अस्थायी संक्षारण निवारक उपाय — विशिष्टि

Indian Standard

GENERAL PURPOSE OIL BASED TEMPORARY CORROSION PREVENTIVES — SPECIFICATION

ICS 75.100

© BIS 2000

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

April 2000 Price Group 2

Lubricants and Related Products Sectional Committee, PCD 4

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Lubricants and Related Products Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

This Indian Standard has been prepared with a view to facilitating the supply to large and small scale consumers of a material of quality most suited for use under Indian climatic conditions.

This standard would be one of a series of Indian Standards on temporary corrosion preventives, namely IS 958 : 1975, IS 1153 : 1975 and IS 1674 : 1960 covering different types of temporary corrosion preventives. Considerable assistance has been drawn from these existing standards as well as the British Standard BS 7541 : 1992 and the Japanese Standard JIS K2246-1994 in preparing this standard.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

GENERAL PURPOSE OIL BASED TEMPORARY CORROSION PREVENTIVES — SPECIFICATION

1 SCOPE

This standard prescribes the requirements and the methods of sampling and tests for temporary corrosion preventive fluids suitable for the protection of metal surfaces during transport and storage.

2 NORMATIVE REFERENCES

The following Indian Standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision, and parties to agreements based on the standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
513 : 1994	Cold rolled low carbon steel sheet and strips (*fourth revision*)
1447 : 1966	Methods of sampling of petroleum and its products:
1448	Methods of test for petroleum and its products.
[P : 1] : 1971	Neutralization number by potentiometric titration (*first revision*)
[P : 4] : 1984	Ash, sulphated ash and water soluble ash (*second revision*)
[P : 10] : 1976	Cloud point and pour point (*first revision*)
[P : 15] : 1976	Detection of copper corrosion from petroleum products by the copper strip tarnish test (*second revision*)
[P : 25] : 1976	Determination of kinematic and dynamic viscosity (*first revision*)
[P : 69] : 1969	Flash and fire point by Cleveland (open) cup

3 GRADES

The general purpose oil based temporary corrosion preventive fluids shall be of three grades:

a) Grade 1,
b) Grade 2, and
c) Grade 3.

4 DEFINITION

For the purpose of this standard, the temporary corrosion preventives are materials used for the protection of metallic surfaces during transportation and storage. These are applied to the metallic surfaces and function by forming protective barriers or other appropriate mode of action at the metal surface. The corrosion preventives are readily removable by hot or cold solvents, wiping, detergent solutions or stripping.

NOTE — The term 'temporary' signifies ready removability of the corrosion preventive and not the duration of its efficacy. The corrosion preventives should completely wet the metal surfaces and form smooth continuous film when applied by suitable methods.

5 REQUIREMENTS

5.1 General Requirements

The temporary corrosion preventives shall be easily removable by applicable means such as wiping, action of solvents or detergents or manual stripping. This property shall be retained by the film after aging also.

The temporary corrosion preventives shall be homogeneous materials consisting of film forming agents and other ingredients dissolved or dispersed in media as applicable for the different grades. They shall be free from dirt and other visible impurities and shall not contain any separated water.

5.2 Keeping Quality

When stored in the original sealed containers under normal ambient conditions, the temporary corrosion preventives shall retain their properties and shall meet the requirements covered in this standard for the corresponding grades for a period of at least 12 months from the date of delivery.

5.3 Specific Requirements

The temporary corrosion preventives shall comply with the appropriate requirements for the grades covered in Table 1.

6 PACKING AND MARKING

6.1 Packing

Material shall be packed in suitable containers of appropriate size as agreed to between the purchaser and the supplier.

Table 1 Requirements for General Purpose Oil Based Temporary Corrosion Preventives

(*Clause* 5.3)

Sl No.	Characteristic	Requirement			Method of Test, Ref to	
		Grade 1	Grade 2	Grade 3	Part of IS 1448	Annex
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Appearance at 25/30°C	Clear liquid			Visual examination	—
ii)	Type of film formed	Oily			do	—
iii)	Kinematic viscosity, cSt at 40°C	15-45	50-100	150 *Min*	[P : 25]	—
iv)	Flash point, (COC) °C, *Min*	150	160	180	[P : 69]	—
v)	Pour point, °C, *Max*	0	0	0	[P : 10]	—
vi)	Copper corrosion, *Max* (100°C, 3h)	2	2	2	[P : 15]	—
vii)	Humidity cabinet test, hours, passing, *Min*	240	300	360	[P : 1)]	—
viii)	Salt spray corrosion test, hour, passing, *Min*	—	—	24	[P : 2)]	—
ix)	Film thickness, micron	Report			—	A
x)	Total acid number	do			[P : 1]	—
xi)	Sulphated ash, percent by mass	do			[P : 4]	—

1) Under preparation. Till such time it is published, ASTM D 1748 shall be followed.

2) Under preparation. Till such time it is published, ASTM B 117 shall be followed.

6.2 Marking

6.2.1 The containers shall be securely closed and marked with the following:

a) Indication of the source of manufacture;
b) Name and grade of material;
c) Net mass of material;
d) Recognized trade-mark, if any; and
e) Identification in code or otherwise to enable the lot of consignment or manufacture to be traced back from records.

6.3 BIS Certification Marking

Each container may also be marked with the Standard Mark.

6.3.1 The use of Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

7 SAMPLING AND CRITERIA FOR CONFORMITY

7.1 Representative samples of material shall be drawn as prescribed in IS 1447.

7.2 Tests for determining all the characteristics given in Table 1 of the standard shall be conducted on the composite sample.

7.3 The lot shall be declared as conforming to the requirements of this standard, if all the test results on the composite sample satisfy the requirements of this standard.

ANNEX A

[*Table* 1, *Sl No.* (ix)]

DETERMINATION OF FILM THICKNESS

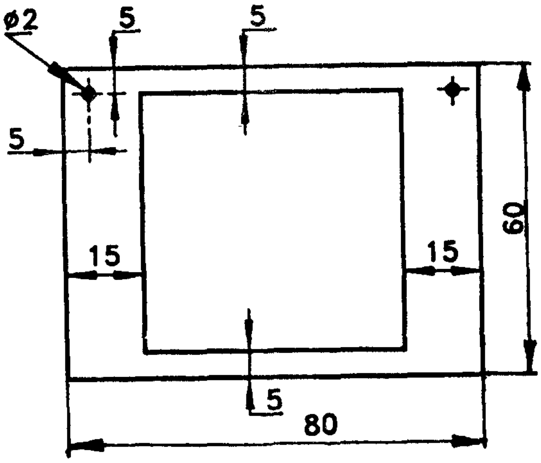
A-1 GENERAL

Testing by the gravimetric method is specified herein, but other suitable methods may also be employed.

A-2 METHOD OF PREPARING COATED TEST PIECES

A-2.1 Method of Coating

The operation of coating with the rust preventive oil shall be performed at a relative humidity of 50 percent or lower and a temperature of 25 ± 1°C. The rust preventive oil shall be put in the container used for coating in such a quantity as to completely immerse the test pieces and thoroughly mixed with stirring. The foam accumulated on the surface shall be removed. Steel test pieces conforming to IS 513 shall be according to Fig. 1. Three test pieces shall be used for each test. It shall be immersed in the container holding the oil for 1 minute and then withdrawn at a rate of 100 mm per minute.



All dimensions in millimetres.

Fig. 1 Test Pieces

A-2.2 Method of Drying

The coated test pieces shall be naturally dried for 24 h in suspended condition in a clean place until they are subjected to the film thickness and other tests.

A-3 METHOD OF OBTAINING FILM DENSITY

25 g of sample shall be placed in a flat-bottomed evaporating dish of 90 mm in inner diameter and maintained at 107 ± 2°C for 16 h in an explosion proof air bath. By using the evaporation residue as the test sample (*see* Note) the film density shall be obtained by the Hubbard pycknometer method.

NOTE — Where the evaporation residue obtained in one operation is less than 25 ml, the evaporation residues obtained in two or more operations shall be used as the test sample.

A-4 CALCULATION

The film thickness of the coated test pieces shall be calculated from the following formula:

$$\text{Film thickness (micron)} = \frac{10\,000 \times M}{D \times A}$$

where

M = mass of film (g),

D = density of film (g/cm^3), and

A = total surface area of test piece (cm^2).

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act*, 1986 to promote harmonious development of the activities of stardardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publication), BIS

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards: Monthly Additions'.

This Indian Standard has been developed from Doc: No PCD 4 (1635).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones: 323 01 31, 323 3375, 323 94 02

Telegrams: Manaksanstha
(Common to all offices)

Regional Offices:

Regional Offices	Address	Telephone
Central	Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	323 76 17, 323 38 41
Eastern	1/14 C.I.T. Scheme VII M, V.I.P. Road, Kankurgachi CALCUTTA 700054	337 84 99, 337 85 61 337 86 26, 337 91 20
Northern	SCO 335-336, Sector 34-A, CHANDIGARH 160022	60 38 43 60 20 25
Southern	C.I.T. Campus, IV Cross Road, CHENNAI 600113	235 02 16, 235 04 42 235 15 19, 235 23 15
Western	Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400093	832 92 95, 832 78 58 832 78 91, 832 78 92

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM.

Printed at Simco Printing Press, Delhi